EXHIBIT E

U.S. Patent No. US 9,871,415 v. Samsung

1. Claim Chart

Claim	Analysis
[1.P] A method for transferring power to a receptor mobile device having a first battery from a donor mobile device having a second battery, comprising;	Samsung ("Company") performs and/or induces others to perform a method for transferring power to a receptor mobile device having a first battery from a donor mobile device having a second battery. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, Company provides mobile devices such as Galaxy and Foldable smartphones and smartwatches including, but not limited to, the Galaxy S20 series, Galaxy smartwatches and Galaxy Z fold phones, that comprise a feature of 'Wireless PowerShare' or 'Reverse Charging' and are compliant with Qi, a standard for wireless power transfer. Further, in PowerShare, the power is transferred wirelessly from a battery ("second battery") of one Galaxy device such as a smartphone ("donor mobile device") to the battery ("first battery") of another Galaxy device such as smartwatch ("receptor mobile device") such that the smartwatch gets charged.  Source: https://www.youtube.com/watch?v=MrJzQVnrGdU&t=12s at 0:12

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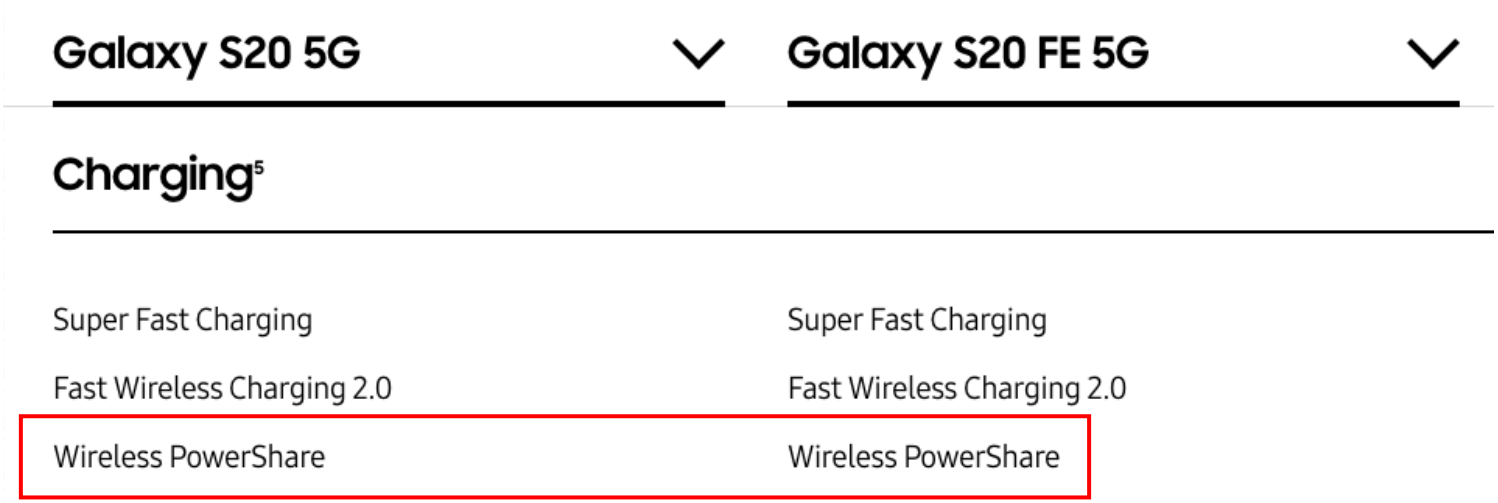
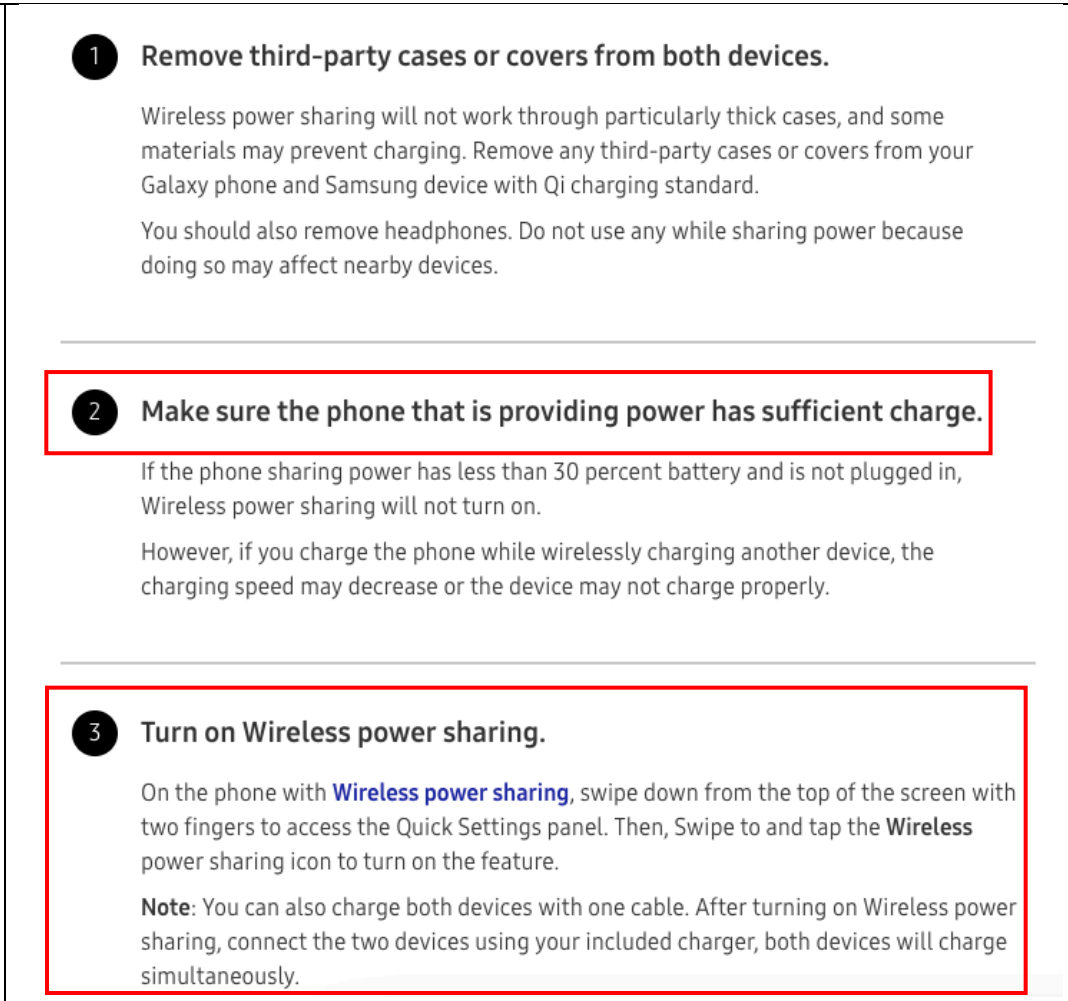
	Most Qi-Compatible Samsung devices can be charged with Wireless PowerShare, but check out the full list of compatible devices below just in case. The speed and power of the charge will vary by device. • **Galaxy Note phones:** Galaxy Note20 5G, Note20 Ultra 5G, Note10+, Note10, Note9, Note8, and Note 5 • **Galaxy S phones:** S23 series, S22 series, S21 series, S20 series, S10 series, S9 series, S8 series, S7 series, and S6 series • **Foldable phones:** Galaxy Z Fold, Z Fold2, Z Fold3, Z Fold4, Z Fold5, Z Flip, Z Flip 5G, Z Flip3, Z Flip4, and Z Flip5 • **Samsung earbuds:** Galaxy Buds Pro, Galaxy Buds Pro 2, Galaxy Buds Live, Galaxy Buds+, Galaxy Buds2, and Galaxy Buds • **Samsung smart watches:** Galaxy Watch 5 Pro, Galaxy Watch5, Galaxy Watch4, Galaxy Watch4 Classic, Galaxy Watch, Galaxy Watch3, Galaxy Watch Active, and Galaxy Watch Active2 • **Additional devices:** Galaxy S7/S7 Edge, Galaxy S8/S8+, and Galaxy S9/S9+ Source: https://www.samsung.com/us/support/answer/ANS00047798/ Charging your devices can easily become a tangled mess. Fortunately, Samsung is here to help with our wireless charging options. Between our PowerShare technology and our wireless charging pads, like the **Wireless Charger Duo**, you no longer have to worry about accidentally yanking the charger out of the wall when you pick up your attached phone. Depending on which **wireless charger** you have, you can charge up to three devices at once. With PowerShare, you can charge a compatible phone, smart watch, or earbuds by placing it on your Galaxy phone. Source: https://www.samsung.com/us/support/answer/ANS00047798/ Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.

[1.1] configuring a donor wireless power transfer mechanism on the donor mobile device using a wireless transmit application;	Company performs and/or induces others to perform a method of configuring a donor wireless power transfer mechanism on the donor mobile device using a wireless transmit application. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, when the Galaxy smartphone has sufficient battery, the Wireless PowerShare setting ("wireless transmit application") is turned on in the smartphone to charge the smartwatch.  Source: https://www.samsung.com/global/galaxy/compare-smartphones/



1 Remove third-party cases or covers from both devices.

Wireless power sharing will not work through particularly thick cases, and some materials may prevent charging. Remove any third-party cases or covers from your Galaxy phone and Samsung device with Qi charging standard.

You should also remove headphones. Do not use any while sharing power because doing so may affect nearby devices.

2 Make sure the phone that is providing power has sufficient charge.

If the phone sharing power has less than 30 percent battery and is not plugged in, Wireless power sharing will not turn on.

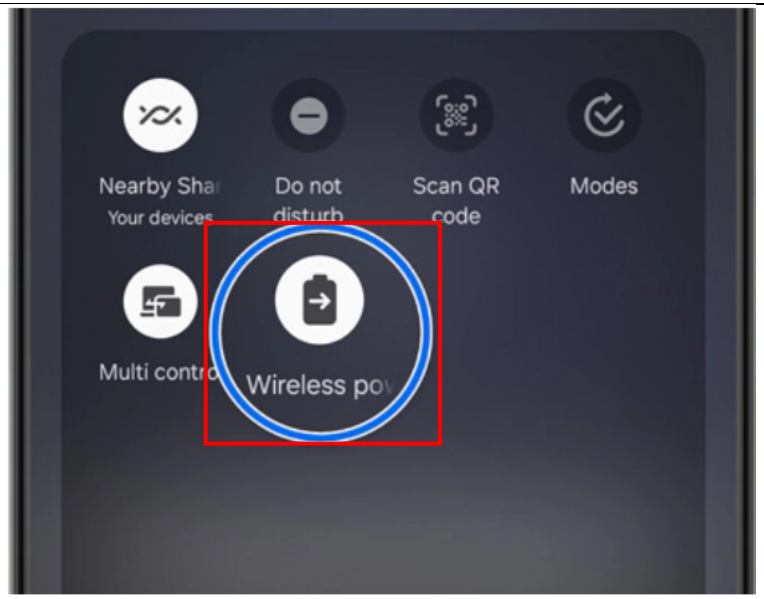
However, if you charge the phone while wirelessly charging another device, the charging speed may decrease or the device may not charge properly.

3 Turn on Wireless power sharing.

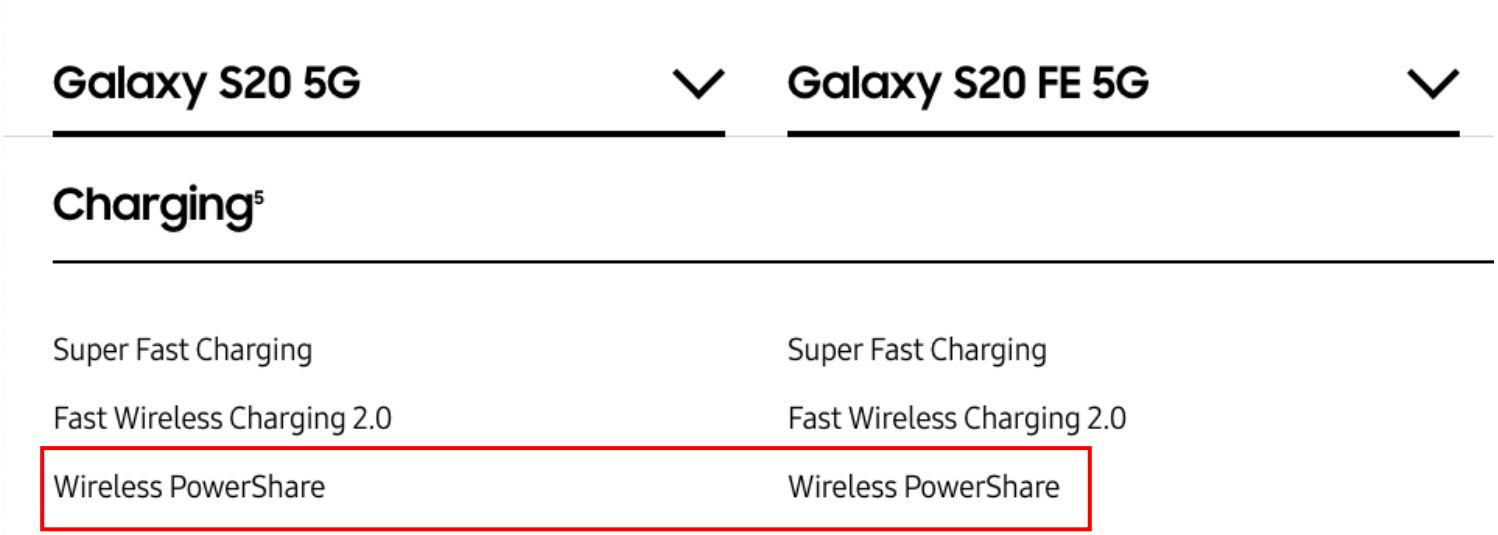
On the phone with **Wireless power sharing**, swipe down from the top of the screen with two fingers to access the Quick Settings panel. Then, Swipe to and tap the **Wireless** power sharing icon to turn on the feature.

Note: You can also charge both devices with one cable. After turning on Wireless power sharing, connect the two devices using your included charger, both devices will charge simultaneously.

Source: https://www.samsung.com/us/support/troubleshooting/TSG01109653/

	 Source: https://www.samsung.com/us/support/answer/ANS00047798/ Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[1.2] configuring a receptor wireless power transfer mechanism on the receptor mobile device using a wireless	Company performs and/or induces others to perform a method of configuring a receptor wireless power transfer mechanism on the receptor mobile device using a wireless receive application; This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the Galaxy smartwatch is placed back-to-back on the Galaxy smartphone such that the smartwatch gets charged. Therefore, it would be apparent that the smartwatch comprises a wireless receive application that is activated such that the smartwatch starts getting charged.

receive application;	 Source: https://www.youtube.com/watch?v=MrJzQVnrGdU&t=12s at 0:12

	 Source: https://www.samsung.com/global/galaxy/compare-smartphones/ Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[1.3] transferring power from donor mobile device to the receptor mobile device using the donor wireless power transfer mechanism	Company performs and/or induces others to perform a method of transferring power from donor mobile device to the receptor mobile device using the donor wireless power transfer mechanism and the receptor wireless power transfer mechanism until the first battery reaches a specific power threshold. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, when the Wireless PowerShare feature is enabled in Qi-compatible devices, the power is transferred from the smartphone to the smartwatch through a Qi wireless power transfer system using magnetic induction ("the donor wireless power transfer mechanism and the receptor wireless power transfer mechanism"). Further, in the Qi wireless power transfer system, the power receiver or the smartwatch includes an output disconnect switch, which gets activated when the power receiver reaches a voltage peak. Furthermore, a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put

and the receptor wireless power transfer mechanism until the first battery reaches a specific power threshold;	the Power Transmitter in standby mode. Therefore, it would be apparent to a person having ordinary skill in the art that the smartwatch gets charged until the battery of the smartwatch reaches a specific power threshold. Most Qi-Compatible Samsung devices can be charged with Wireless PowerShare, but check out the full list of compatible devices below just in case. The speed and power of the charge will vary by device. • **Galaxy Note phones:** Galaxy Note20 5G, Note20 Ultra 5G, Note10+, Note10, Note9, Note8, and Note 5 • **Galaxy S phones:** S23 series, S22 series, S21 series, S20 series, S10 series, S9 series, S8 series, S7 series, and S6 series • **Foldable phones:** Galaxy Z Fold, Z Fold2, Z Fold3, Z Fold4, Z Fold5, Z Flip, Z Flip 5G, Z Flip3, Z Flip4, and Z Flip5 • **Samsung earbuds:** Galaxy Buds Pro, Galaxy Buds Pro 2, Galaxy Buds Live, Galaxy Buds+, Galaxy Buds2, and Galaxy Buds • **Samsung smart watches:** Galaxy Watch 5 Pro, Galaxy Watch5, Galaxy Watch4, Galaxy Watch4 Classic, Galaxy Watch, Galaxy Watch3, Galaxy Watch Active, and Galaxy Watch Active2 • **Additional devices:** Galaxy S7/S7 Edge, Galaxy S8/S8+, and Galaxy S9/S9+ Source: https://www.samsung.com/us/support/answer/ANS00047798/ The Qi wireless power transfer system uses magnetic induction to transfer power from a Power Transmitter Product (charger) to a Power Receiver Product (smartphone). Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction ▪ An output disconnect switch, which prevents current from flowing to the output when the Power Receiver does not provide power at its output. In addition, the output disconnect switch prevents current back flow into the Power Receiver when the Power Receiver does not provide power at its output. Moreover, the output disconnect switch minimizes the power that the Power Receiver draws from the Power Transmitter when a Power Signal is first applied to the Secondary Coil.

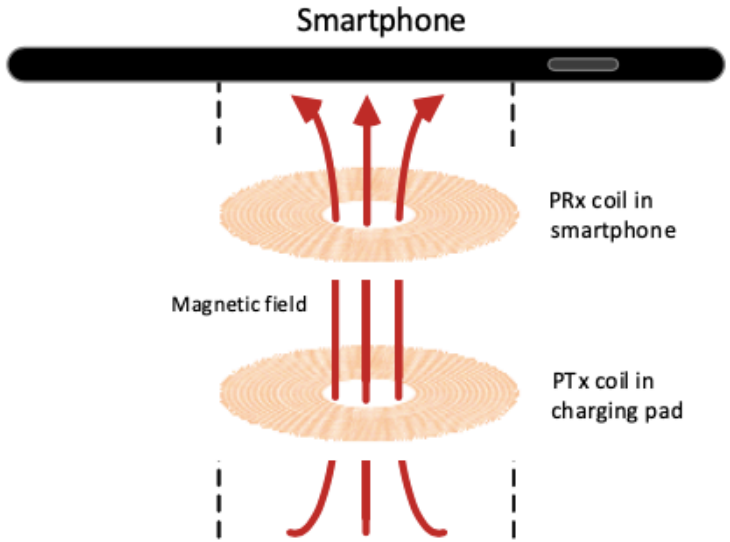
	Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery The Power Receiver shall have the means to disconnect its output from the subsystems connected thereto. If the Power Receiver has disconnected its output, it shall ensure that it still draws a sufficient amount of power from the Power Transmitter, such that Power Receiver to Power Transmitter communications remain possible (see *Qi Specification, Communications Physical Layer*). The Power Receiver shall keep its output disconnected until it reaches the *power transfer* phase for the first time after a Digital Ping (see the *Qi Specification, Communications Protocol*). Subsequently, the Power Receiver may operate the output disconnect switch any time while the Power Transmitter applies a Power Signal. **NOTE:** The Power Receiver may experience a voltage peak when operating the output disconnect switch (and changing between maximum and near-zero power dissipation). Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery It is recommended that the Power Transmitter Product's power consumption in stand-by mode of operation meets the Energy Star EPS Requirements for "Energy consumption for No-Load" and the European Commission, Code of Conduct of Energy Efficiency of External Power Supplies for "No-load power consumption." It is also recommended that a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put the Power Transmitter Product in stand-by mode. Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery

	Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[1.4] receiving and converting received power into electric current using the receptor wireless power transfer mechanism;	Company performs and/or induces others to perform a method of receiving and converting received power into electric current using the receptor wireless power transfer mechanism. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the Qi wireless power transfer system uses magnetic induction to transfer power from the power transmitter to the power receiver. Further, when charging begins, the magnetic field is picked up by the coil inside the Power Receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery. **3 How Qi wireless power transfer works** **3.1 Basic concepts** The Qi wireless power transfer system uses magnetic induction to transfer power from a Power Transmitter Product (charger) to a Power Receiver Product (smartphone). Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction

When charging begins, the Power Transmitter runs an alternating electrical current through its coil(s), which generates an alternating magnetic field in accordance with Faraday's law. This magnetic field is in turn picked up by the coil inside the Power Receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery.

A critical feature of the magnetic field is that it can transfer through any non-metallic, non-ferrous materials, such as plastics, glass, water, wood, and air. In other words, wires and connectors are not needed between the Power Transmitter Product and Power Receiver Product.

Figure 6. Qi wireless power transfer using magnetic induction



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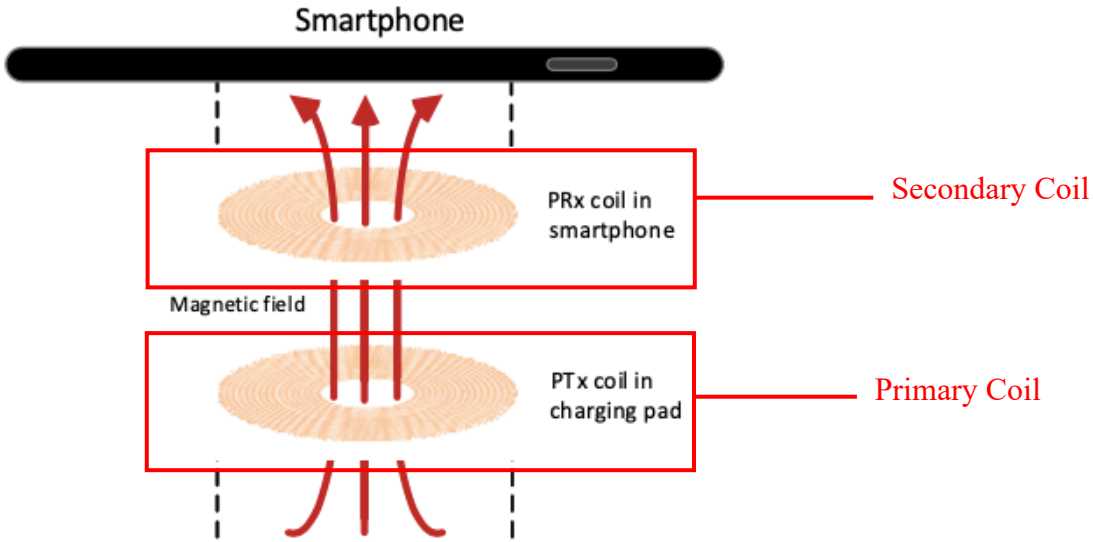
[1.5] providing, by the donor wireless transfer mechanism, an electric current to a primary coil, the primary coil further providing electric current to a secondary coil in the receptor wireless transfer mechanism through a magnetic field; and	Company performs and/or induces others to perform a method of providing, by the donor wireless transfer mechanism, an electric current to a primary coil, the primary coil further providing electric current to a secondary coil in the receptor wireless transfer mechanism through a magnetic field; and This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, when charging begins, the power transmitter runs an alternating electrical current through its coil ("primary coil"), which generates an alternating magnetic field following Faraday's law. This magnetic field is in turn picked up by the coil ("secondary coil") inside the power receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery.

When charging begins, the Power Transmitter runs an alternating electrical current through its coil(s), which generates an alternating magnetic field in accordance with Faraday's law. This magnetic field is in turn picked up by the coil inside the Power Receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery.

A critical feature of the magnetic field is that it can transfer through any non-metallic, non-ferrous materials, such as plastics, glass, water, wood, and air. In other words, wires and connectors are not needed between the Power Transmitter Product and Power Receiver Product.

Figure 6. Qi wireless power transfer using magnetic induction

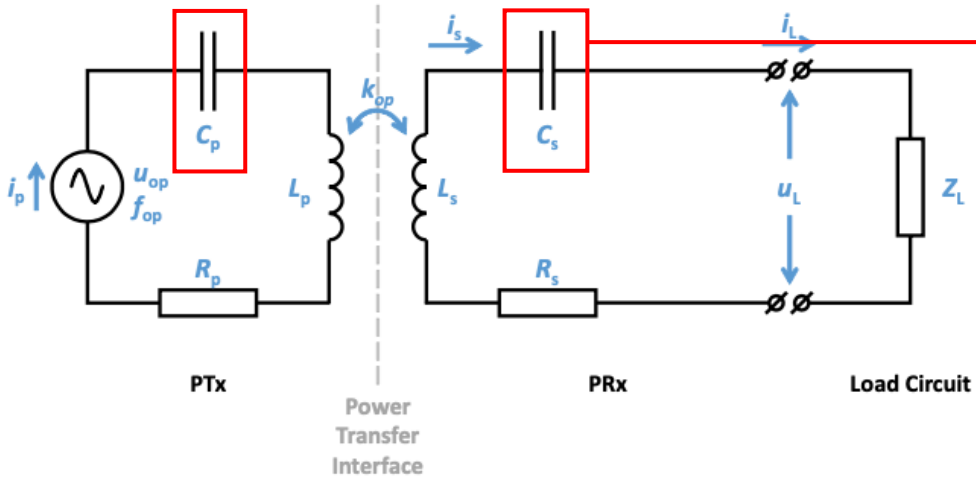


Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction

	Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[1.6] storing an electric charge in a capacitor included in the receptor wireless power transfer mechanism thereby increasing battery life of the first battery when the capacitor is discharged, the battery life increase based on the specific power threshold.	Company performs and/or induces others to perform a method of storing an electric charge in a capacitor included in the receptor wireless power transfer mechanism thereby increasing battery life of the first battery when the capacitor is discharged, the battery life increase based on the specific power threshold. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the power receiver circuitry comprises a secondary coil and a capacitor such that the battery in the receiver gets charged. Further, the power receiver sends a signal to stop the power transfer to the power transmitter when wireless power is not required. Therefore, it would be apparent to a person having ordinary skill in the art that the capacitor is used for storing an electric charge which further increases the battery life of the power receiver, and the battery life increase is based on the specific power threshold.

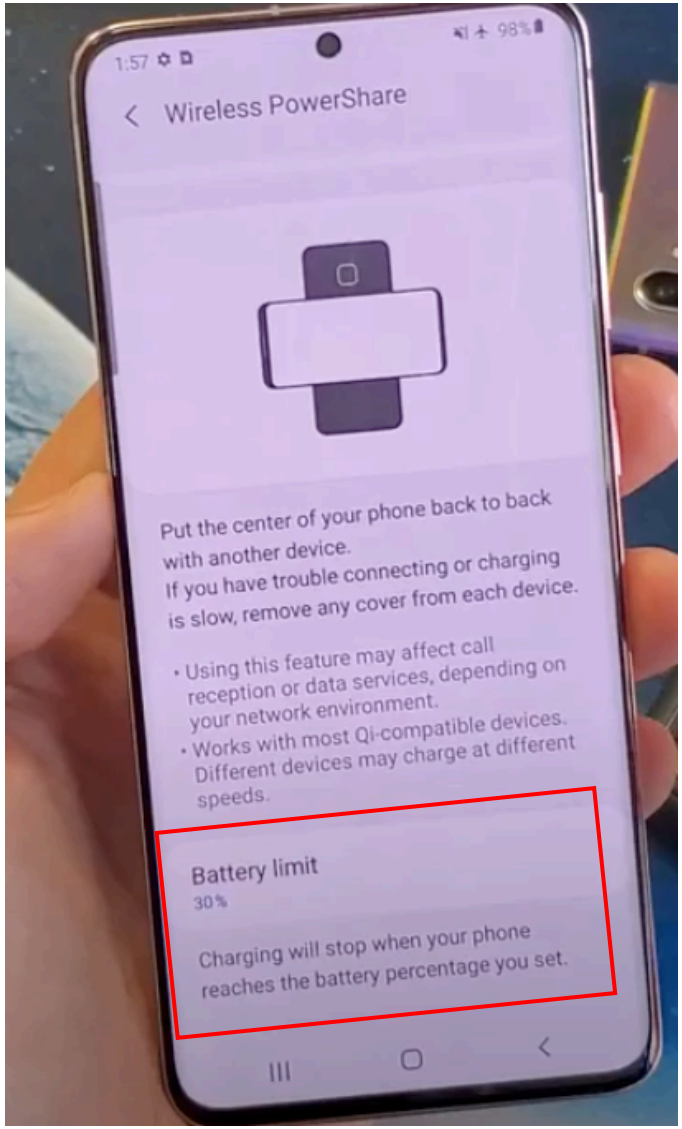
Figure 11 illustrates a simplified model of the system comprising a Power Transmitter on the left and a Power Receiver on the right. For clarity, the load circuit is drawn separately from the Power Receiver. The Power Transmitter consists of a power source (u_{op}, f_{op}), a capacitance C_p, an inductance L_p, and a resistance R_p. The power source supplies a sinusoidal voltage u_{op} at a frequency f_{op}. The Power Receiver consists of a capacitance C_s, an inductance L_s, and a resistance R_s. A load having an impedance Z_L is connected to the output terminals of the Power Receiver. The symbols u_L, i_L, i_p, and k_{op} represent the load voltage, load current, Primary Coil current, and coupling factor.

Figure 11. Simplified system model



Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery

	It is recommended that the Power Transmitter Product's power consumption in stand-by mode of operation meets the Energy Star EPS Requirements for "Energy consumption for No-Load" and the European Commission, Code of Conduct of Energy Efficiency of External Power Supplies for "No-load power consumption." It is also recommended that a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put the Power Transmitter Product in stand-by mode. Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/ Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[2] The method of claim 1, further comprising configuring a donor power threshold using a wireless transmit application.	Company performs and induces others to perform the method of claim 1, further comprising configuring a donor power threshold using a wireless transmit application. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the Wireless PowerShare feature is enabled when the battery of the smartphone is at a certain level such as 30%, and stops transferring the power if the battery level goes beyond this percentage. Therefore, it would be apparent to a person having ordinary skill in the art that a donor power threshold is configured while setting the PowerShare feature.



Source: https://www.youtube.com/watch?v=YcGLPV8Ov-o at 1:00

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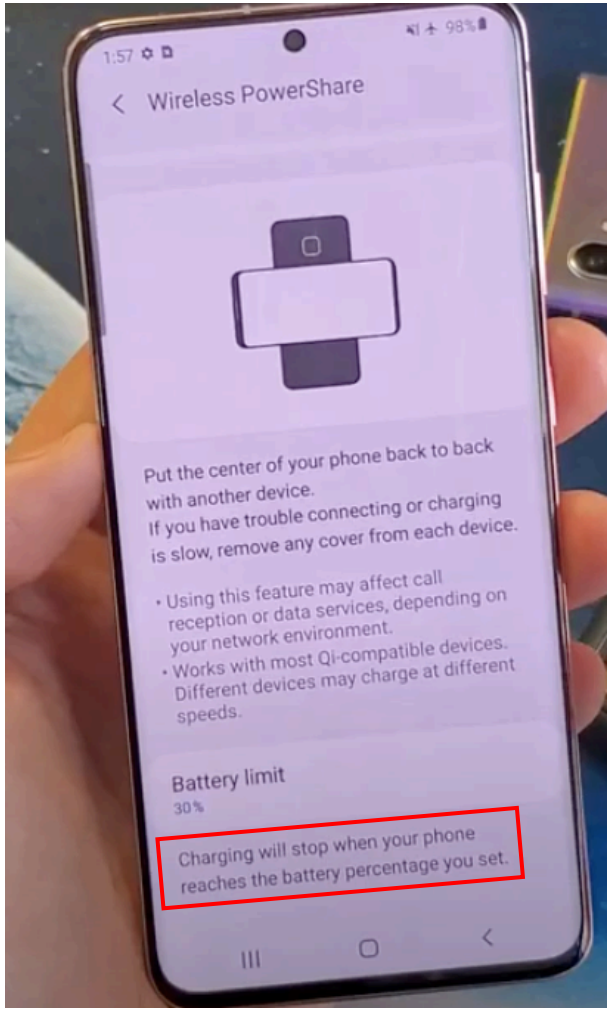
[3] The method of claim 2, further comprising determining whether the donor mobile device has been reduced to the donor power threshold.	Company performs and induces others to perform the method of claim 2, further comprising determining whether the donor mobile device has been reduced to the donor power threshold. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the wireless power sharing between the two devices will stop if the battery percentage of the power transmitter reaches a battery limit ("donor power threshold") set by a user.



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[4] The method of claim 1, further comprising configuring a receptor power threshold using a wireless receive application.	Company performs and induces others to perform the method of claim 1, further configuring a receptor power threshold using a wireless receive application. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, in the Qi wireless power transfer system, the power receiver or the smartwatch includes an output disconnect switch, which gets activated when the power receiver reaches a voltage peak. Furthermore, a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put the Power Transmitter in standby mode. Therefore, it would be apparent to a person having ordinary skill in the art that the smartwatch gets charged until the battery of the smartwatch reaches a specific power threshold. ▪ An output disconnect switch, which prevents current from flowing to the output when the Power Receiver does not provide power at its output. In addition, the output disconnect switch prevents current back flow into the Power Receiver when the Power Receiver does not provide power at its output. Moreover, the output disconnect switch minimizes the power that the Power Receiver draws from the Power Transmitter when a Power Signal is first applied to the Secondary Coil. Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery

The Power Receiver shall have the means to disconnect its output from the subsystems connected thereto. If the Power Receiver has disconnected its output, it shall ensure that it still draws a sufficient amount of power from the Power Transmitter, such that Power Receiver to Power Transmitter communications remain possible (see *Qi Specification, Communications Physical Layer*).

The Power Receiver shall keep its output disconnected until it reaches the *power transfer* phase for the first time after a Digital Ping (see the *Qi Specification, Communications Protocol*). Subsequently, the Power Receiver may operate the output disconnect switch any time while the Power Transmitter applies a Power Signal.

NOTE: The Power Receiver may experience a voltage peak when operating the output disconnect switch (and changing between maximum and near-zero power dissipation).

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[6-P] A system for transferring power to a receptor mobile device having a first battery from a donor mobile device having a second battery, comprising:	Samsung ("Company") makes, uses, sells and/or offers to sell a system for transferring power to a receptor mobile device having a first battery from a donor mobile device having a second battery. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, Company provides mobile devices such as Galaxy and Foldable smartphones and smartwatches including, but not limited to, the Galaxy S20 series, Galaxy smartwatches, and Galaxy Z fold phones, that comprise a feature of 'Wireless PowerShare' or 'Reverse Charging' and are compatible with Qi, a standard for wireless power transfer. Further, in PowerShare, the power is transferred wirelessly from a battery ("second battery") of one Galaxy device such as a smartphone ("donor mobile device") to the battery ("first battery") of another Galaxy device such as smartwatch ("receptor mobile device") such that the smartwatch gets charged.  Source: https://www.youtube.com/watch?v=MrJzQVnrGdU&t=12s at 0:12

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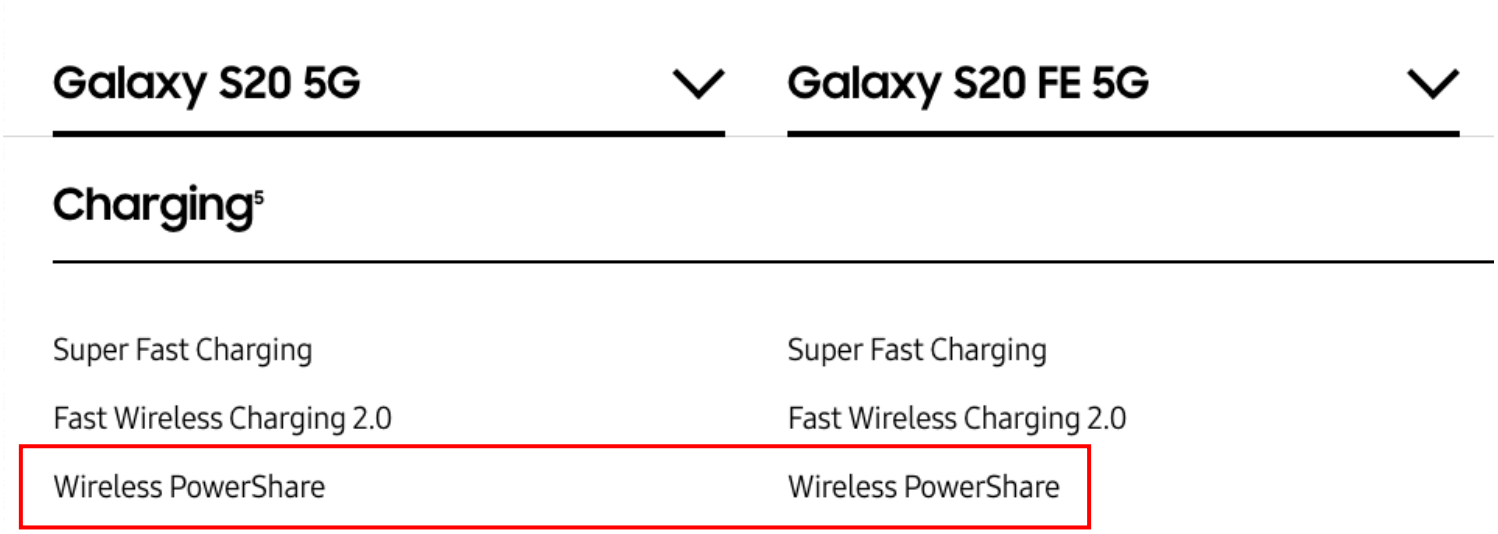
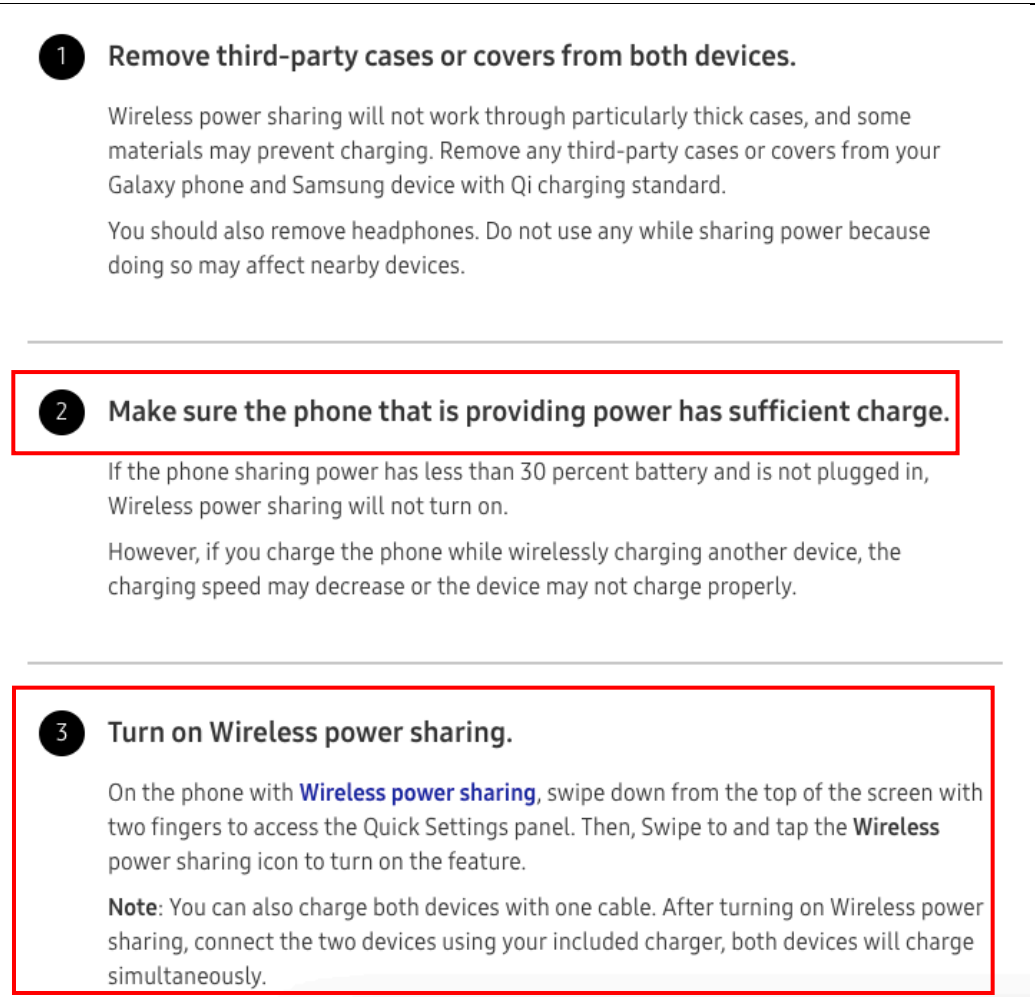
- **Foldable phones:** Galaxy Z Fold, Z Fold2, Z Fold3, Z Fold4, Z Fold5, Z Flip, Z Flip 5G, Z Flip3, Z Flip4, and Z Flip5
- **Samsung earbuds:** Galaxy Buds Pro, Galaxy Buds Pro 2, Galaxy Buds Live, Galaxy Buds+, Galaxy Buds2, and Galaxy Buds
- **Samsung smart watches:** Galaxy Watch 5 Pro, Galaxy Watch5, Galaxy Watch4, Galaxy Watch4 Classic, Galaxy Watch, Galaxy Watch3, Galaxy Watch Active, and Galaxy Watch Active2
- **Additional devices:** Galaxy S7/S7 Edge, Galaxy S8/S8+, and Galaxy S9/S9+

	Source: https://www.samsung.com/us/support/answer/ANS00047798/ Charging your devices can easily become a tangled mess. Fortunately, Samsung is here to help with our wireless charging options. Between our PowerShare technology and our wireless charging pads, like the **Wireless Charger Duo**, you no longer have to worry about accidentally yanking the charger out of the wall when you pick up your attached phone. Depending on which **wireless charger** you have, you can charge up to three devices at once. With PowerShare, you can charge a compatible phone, smart watch, or earbuds by placing it on your Galaxy phone. Source: https://www.samsung.com/us/support/answer/ANS00047798/ Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[6.1] a donor wireless power transfer mechanism on the donor mobile device that uses a wireless transmit application;	Company provides a donor wireless power transfer mechanism on the donor mobile device using a wireless transmit application. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, when the Galaxy smartphone has sufficient battery, the Wireless PowerShare setting ("wireless transmit application") is turned on in the smartphone to charge the smartwatch.



Source: https://www.samsung.com/global/galaxy/compare-smartphones/



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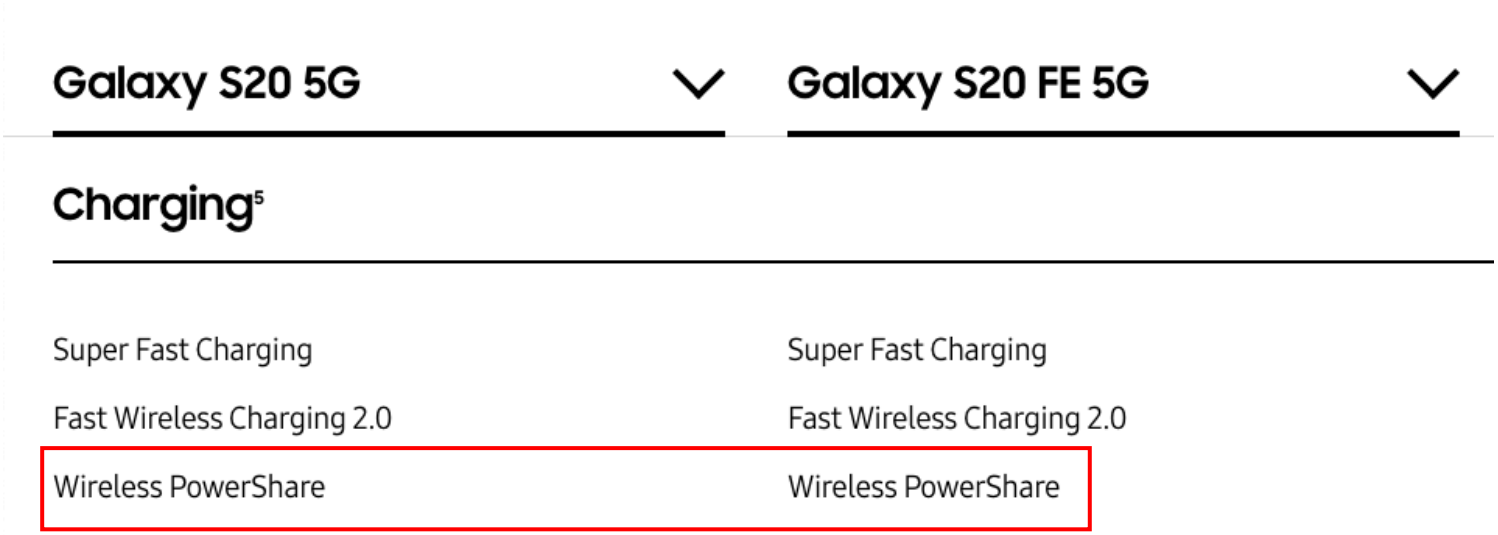
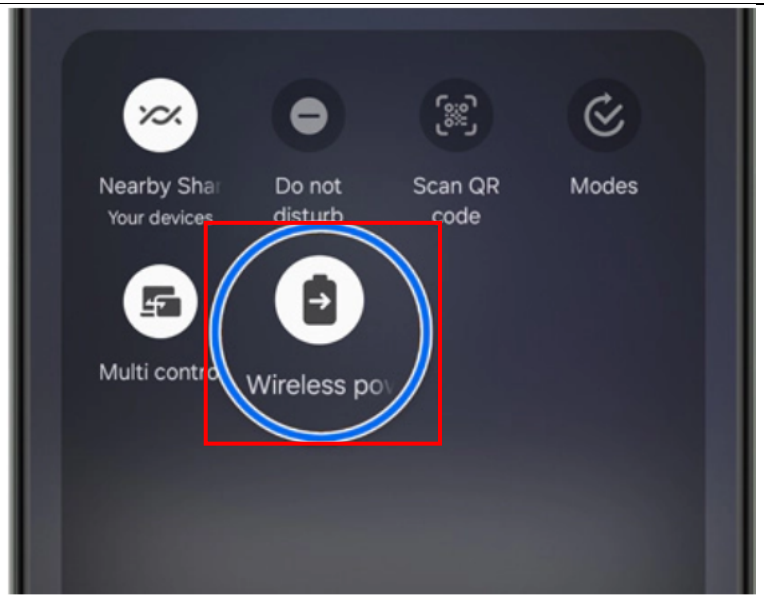
[6.2] a receptor wireless power transfer mechanism on the receptor mobile device that uses a wireless receive application;	Company provides a receptor wireless power transfer mechanism on the receptor mobile device that uses a wireless receive application. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the Galaxy smartwatch is placed back-to-back on the Galaxy smartphone such that the smartwatch gets charged. Therefore, it would be apparent that the smartwatch comprises a wireless receive application that is activated such that the smartwatch starts getting charged.  Source: https://www.youtube.com/watch?v=MrJzQVnrGdU&t=12s at 0:12

	 Source: https://www.samsung.com/global/galaxy/compare-smartphones/

	 Source: https://www.samsung.com/us/support/answer/ANS00047798/ Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[6.3] wherein the donor mobile device transfers power to the receptor mobile device using the donor wireless power transfer	Company provides a system wherein the donor mobile device transfers power to the receptor mobile device using the donor wireless power transfer mechanism and the receptor wireless power transfer mechanism until the first battery reaches a specific power threshold. This element is infringed literally, or in the alternative, under the doctrine of equivalents. Further, in the Qi wireless power transfer system, the power receiver or the smartwatch includes an output disconnect switch, which gets activated when the power receiver reaches a voltage peak. Furthermore, a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put the Power Transmitter in standby mode. Therefore, it would be apparent to a person having ordinary skill in the art that the smartwatch gets charged until the battery of the smartwatch reaches a specific power threshold.

mechanism and the receptor wireless power transfer mechanism until the first battery reaches a specific power threshold;	Most Qi-Compatible Samsung devices can be charged with Wireless PowerShare, but check out the full list of compatible devices below just in case. The speed and power of the charge will vary by device. • **Galaxy Note phones:** Galaxy Note20 5G, Note20 Ultra 5G, Note10+, Note10, Note9, Note8, and Note 5 • **Galaxy S phones:** S23 series, S22 series, S21 series, S20 series, S10 series, S9 series, S8 series, S7 series, and S6 series • **Foldable phones:** Galaxy Z Fold, Z Fold2, Z Fold3, Z Fold4, Z Fold5, Z Flip, Z Flip 5G, Z Flip3, Z Flip4, and Z Flip5 Source: https://www.samsung.com/us/support/answer/ANS00047798/ The Qi wireless power transfer system uses magnetic induction to transfer power from a Power Transmitter Product (charger) to a Power Receiver Product (smartphone). Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction ▪ An output disconnect switch, which prevents current from flowing to the output when the Power Receiver does not provide power at its output. In addition, the output disconnect switch prevents current back flow into the Power Receiver when the Power Receiver does not provide power at its output. Moreover, the output disconnect switch minimizes the power that the Power Receiver draws from the Power Transmitter when a Power Signal is first applied to the Secondary Coil. Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery

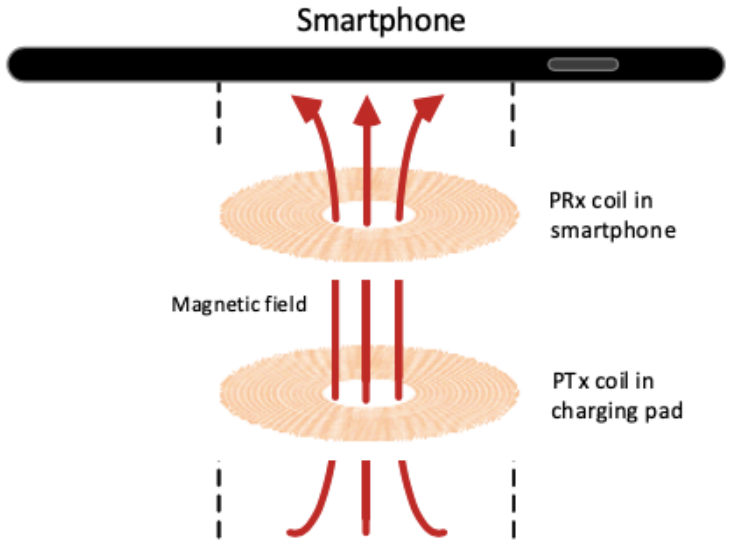
	The Power Receiver shall have the means to disconnect its output from the subsystems connected thereto. If the Power Receiver has disconnected its output, it shall ensure that it still draws a sufficient amount of power from the Power Transmitter, such that Power Receiver to Power Transmitter communications remain possible (see *Qi Specification, Communications Physical Layer*). The Power Receiver shall keep its output disconnected until it reaches the *power transfer* phase for the first time after a Digital Ping (see the *Qi Specification, Communications Protocol*). Subsequently, the Power Receiver may operate the output disconnect switch any time while the Power Transmitter applies a Power Signal. **NOTE:** The Power Receiver may experience a voltage peak when operating the output disconnect switch (and changing between maximum and near-zero power dissipation). Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery It is recommended that the Power Transmitter Product's power consumption in stand-by mode of operation meets the Energy Star EPS Requirements for "Energy consumption for No-Load" and the European Commission, Code of Conduct of Energy Efficiency of External Power Supplies for "No-load power consumption." It is also recommended that a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put the Power Transmitter Product in stand-by mode. Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.

[6.4] wherein the receptor wireless power transfer mechanism receives and converts received power into electric current;	Company provides a system wherein the receptor wireless power transfer mechanism receives and converts received power into electric current. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the Qi wireless power transfer system uses magnetic induction to transfer power from the power transmitter to the power receiver. Further, when charging begins, the magnetic field is picked up by the coil inside the Power Receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery. **3 How Qi wireless power transfer works** **3.1 Basic concepts** The Qi wireless power transfer system uses magnetic induction to transfer power from a Power Transmitter Product (charger) to a Power Receiver Product (smartphone). Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction

When charging begins, the Power Transmitter runs an alternating electrical current through its coil(s), which generates an alternating magnetic field in accordance with Faraday's law. This magnetic field is in turn picked up by the coil inside the Power Receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery.

A critical feature of the magnetic field is that it can transfer through any non-metallic, non-ferrous materials, such as plastics, glass, water, wood, and air. In other words, wires and connectors are not needed between the Power Transmitter Product and Power Receiver Product.

Figure 6. Qi wireless power transfer using magnetic induction



Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction

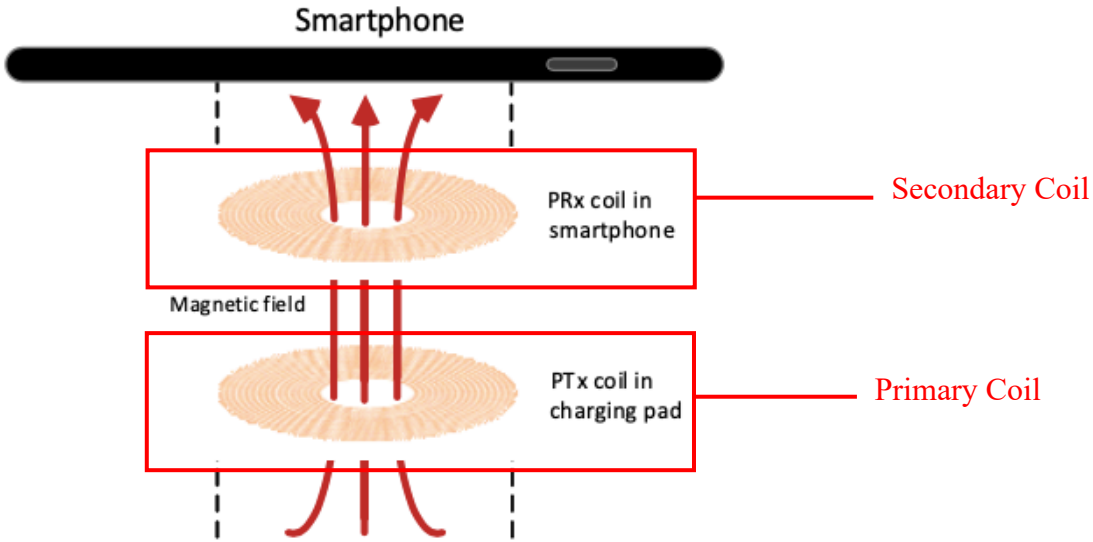
Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.

[6.5] wherein the donor wireless transfer mechanism provides an electric current to a primary coil and the primary coil further provides electric current to a secondary coil in the receptor wireless transfer mechanism through a magnetic field; and	Company provides a system wherein the donor wireless transfer mechanism provides an electric current to a primary coil and the primary coil further provides electric current to a secondary coil in the receptor wireless transfer mechanism through a magnetic field. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, when charging begins, the power transmitter runs an alternating electrical current through its coil ("primary coil"), which generates an alternating magnetic field following Faraday's law. This magnetic field is in turn picked up by the coil ("secondary coil") inside the power receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery.

When charging begins, the Power Transmitter runs an alternating electrical current through its coil(s), which generates an alternating magnetic field in accordance with Faraday's law. This magnetic field is in turn picked up by the coil inside the Power Receiver and transformed by a power converter back into a direct electrical current that can be used to charge the battery.

A critical feature of the magnetic field is that it can transfer through any non-metallic, non-ferrous materials, such as plastics, glass, water, wood, and air. In other words, wires and connectors are not needed between the Power Transmitter Product and Power Receiver Product.

Figure 6. Qi wireless power transfer using magnetic induction

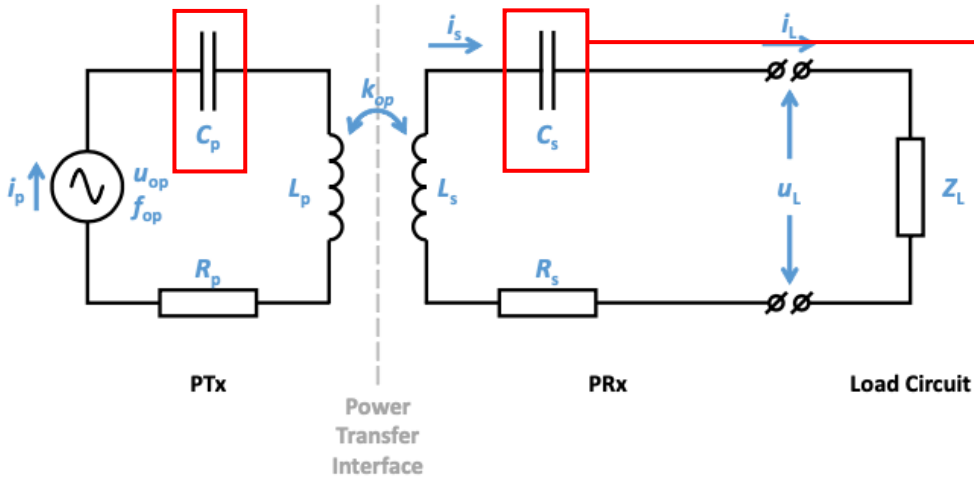


Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-introduction

	Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.
[6.6] wherein a capacitor included in the receptor wireless power transfer mechanism stores an electric charge thereby increasing battery life of the first battery when the capacitor is discharged, the battery life increase based on the specific power threshold.	Company provides a system wherein a capacitor included in the receptor wireless power transfer mechanism stores an electric charge thereby increasing battery life of the first battery when the capacitor is discharged, the battery life increase based on the specific power threshold. This element is infringed literally, or in the alternative, under the doctrine of equivalents. For example, the power receiver circuitry comprises a secondary coil and a capacitor such that the battery in the receiver gets charged. Further, the power receiver sends a signal to stop the power transfer to the power transmitter when wireless power is not required. Therefore, it would be apparent to a person having ordinary skill in the art that the capacitor is used for storing an electric charge which further increases the battery life of the power receiver, and the battery life increase is based on the specific power threshold.

Figure 11 illustrates a simplified model of the system comprising a Power Transmitter on the left and a Power Receiver on the right. For clarity, the load circuit is drawn separately from the Power Receiver. The Power Transmitter consists of a power source (u_{op}, f_{op}), a capacitance C_p, an inductance L_p, and a resistance R_p. The power source supplies a sinusoidal voltage u_{op} at a frequency f_{op}. The Power Receiver consists of a capacitance C_s, an inductance L_s, and a resistance R_s. A load having an impedance Z_L is connected to the output terminals of the Power Receiver. The symbols u_L, i_L, i_p, and k_{op} represent the load voltage, load current, Primary Coil current, and coupling factor.

Figure 11. Simplified system model



Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery

	It is recommended that the Power Transmitter Product's power consumption in stand-by mode of operation meets the Energy Star EPS Requirements for "Energy consumption for No-Load" and the European Commission, Code of Conduct of Energy Efficiency of External Power Supplies for "No-load power consumption." It is also recommended that a Power Receiver is designed in a manner that when wireless power is not required, the Power Receiver will send an End Power Transfer Packet to put the Power Transmitter Product in stand-by mode. Source: https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/V-1.3-Power_Delivery Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall supplement these contentions pursuant to production of such source code by the Company.

2. List of References

1. https://www.samsung.com/us/mobile/galaxy-s20-5g/buy/galaxy-s20-fe-5g-128gb-unlocked-sm-g781uzbmxaa/, last accessed on 19 December, 2023.
2. https://www.samsung.com/us/support/troubleshooting/TSG01109653/ , last accessed on 19 December, 2023.
3. https://www.samsung.com/us/support/answer/ANS00047798/ , last accessed on 19 December, 2023.
4. https://www.wirelesspowerconsortium.com/knowledge-base/specifications/download-the-qi-specifications/ , last accessed on 19 December, 2023.
5. https://www.youtube.com/watch?v=YcGLPV8Ov-o , last accessed on 19 December, 2023.